

FEASIBILITY STUDY

**Proposed New Route (Davidson River Village Connector)
From US 276/64 to US 64 in Pisgah Forest**

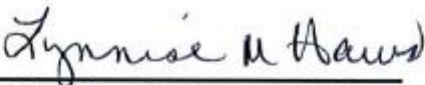
Transylvania County

Division 14

FS-1014A



**Prepared by the
Program Development Branch
N. C. Department of Transportation**



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I. General Description

This feasibility study describes the proposed new route (Davidson River Village Connector) from US 276/64 to US 64, a distance of approximately 0.8 miles. The project location is shown on Figure 1. As part of the study, several different cross-sections were investigated, the details of which are as follows:

- ◆ Two-lane undivided and divided curb and gutter section on 75 feet of right of way.
- ◆ Two-lane undivided and divided curb and gutter section on 100 feet of right of way.
- ◆ Four-lane divided curb and gutter section on 120 feet of right of way.

This is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including cost, and to identify potential problems that may require consideration in the planning and design phases.

II. Background

The purpose of this project is to provide a new connector from US 276/64 to US 64 as an access point for the Davidson River Village Project.

The following State Transportation Improvement Program (STIP) project is located within the project corridor:

- R-2702: US 64 (Brevard Bypass).

III. Traffic and Safety

There are existing traffic signals located at the following intersections within the project study area:

- US 276/64 and SR 1512 (Ecusta Road)
- US 276/64/NC 280 and US 276/64

The estimated current year Average Daily Traffic (ADT) along the Davidson River Village Connector is estimated to range from 5,200 vehicles per day (vpd) to 16,600 vpd. For the design year 2035, the traffic volume along the Davidson River Village Connector is estimated to range between 5,700 vpd to 20,900 vpd. Truck traffic is estimated to be up to 6 percent of the daily traffic. In the 2035 design year, the preferred alternative will operate at a Level of Service (LOS) D or better.

IV. Description of Alternatives

It is proposed to construction a new route from US 64 to US 276/64, a distance of approximately 0.8 miles. The project location is shown on Figure 1.

ALTERNATIVE 1: Two-lane undivided curb and gutter section, 32 feet from face to face of curb, with 14-foot travel lanes, 10-foot berms, and 5-foot sidewalks on 75 feet of right of way from US 276/64 to SR 1512 (Ecusta Road). Two-lane divided curb and gutter section, 49 feet from face to face of curb, with 14-foot travel lanes, a 17-foot raised grass median, 10-berms, and 5-foot sidewalks on 75 feet of right of way from SR 1512 to US 64. Included in the costs below are the proposed bridges over the Davidson River.

With this alternative, it is anticipated that there will be zero (0) residences and zero (0) businesses relocated due to this project. The total cost of this alternative, including right of way, utility relocation, and construction, is estimated to be \$10,100,000.

Right-of-way.....	\$2,200,000
Utility Relocation.....	\$400,000
<u>Construction.....</u>	<u>\$7,500,000</u>
Total Cost (Alternative 1).....	\$10,100,000

ALTERNATIVE 2: Two-lane undivided curb and gutter section, 32 feet from face to face of curb, with 14-foot travel lanes, 10-foot berms, and 5-foot sidewalks on 100 feet of right of way from US 276/64 to SR 1512. Two-lane divided curb and gutter section, 49 feet from face to face of curb, with 14-foot travel lanes, a 17-foot raised grass median, 10-berms, and 5-foot sidewalks on 100 feet of right of way from SR 1512 to US 64. Included in the costs below are the proposed bridges over the Davidson River.

With this alternative, it is anticipated that there will be zero (0) residences and zero (0) businesses relocated due to this project. The total cost of this alternative, including right of way, utility relocation, and construction, is estimated to be \$10,700,000.

Right-of-way.....	\$2,600,000
Utility Relocation.....	\$400,000
<u>Construction.....</u>	<u>\$7,700,000</u>
Total Cost (Alternative 2).....	\$10,700,000

ALTERNATIVE 3: Four-lane divided curb and gutter section, 73 feet from face to face of curb, with 12-foot inside travel lanes, 14-foot outside travel lanes, a 23-foot raised grass median, 15-foot berms, 5-foot sidewalks on 120 feet of right of way. Included in the costs below are the proposed bridges over the Davidson River.

With this alternative, it is anticipated that there will be zero (0) residences and zero (0) businesses relocated due to this project. The total cost of this alternative, including right of way, utility relocation, and construction, is estimated to be \$13,900,000.

Right-of-way.....	\$3,000,000
Utility Relocation.....	\$400,000
Construction.....	\$10,500,000
Total Cost (Alternative 3).....	\$13,900,000

If a 17-foot raised grass median is used instead of the 23-foot raised grass median, the project costs will decrease by approximately \$200,000.

According to the AASHTO standard, the outside lanes in a curb and gutter section shall be 14 feet. All alternatives include the appropriate bicycle accommodations.

In addition to constructing the Davidson River Village Connector, the following intersection improvements are included in the costs shown above:

- US 64 and Davidson River Village Connector
 - addition of southbound right turn lane on US 64
 - addition of dual northbound left lanes on US 64

A donation of right of way on the Davidson River Village property is proposed. The donation of right of way would decrease the project costs by approximately \$900,000.

V. Community Issues

A detailed investigation was not conducted for this feasibility study, however no impacts to schools, parks, recreation areas, or community facilities are anticipated.

Maps at the Survey and Planning Branch of the North Carolina State Historic Preservation Office were used to determine if any historic properties on the National Register of Historic Places (NRHP) or state study lists exist within the proposed project corridor. No properties within the project study area were found to be potentially historic properties.

VI. Natural Environment Issues

The following is a preliminary review of environmental issues that might have a potential impact to the project. The information obtained for the environmental screening is from a Geographic Information System (GIS) database. The purpose of the environmental screening is to identify potential environmental issues early in the process.

Stream Classification

The proposed project study area is located in the French Broad River Basin. The Davidson River Village Connector crosses the Davidson River in the project corridor. The Davidson River has a stream classification of WS-V Tr. This water body will likely need to be surveyed and have the appropriate coordination with the North Carolina Department of Environment and Natural Resources (NCDENR) and the U.S. Army Corps of Engineers (USACE) during any environmental document study.

Wetlands

The Davidson River village Connector crosses wetlands associated with the Davidson River. Permitting with the U.S. Army Corps of Engineers (USACE) will likely need to be obtained before construction of the project, and appropriate mitigation measures should be taken if deemed necessary. A portion of the project study area is located in a 100 and 500-year floodplain.

Threatened and Endangered Species

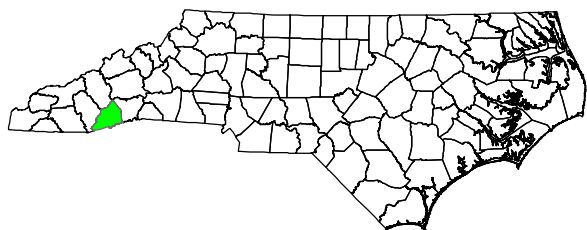
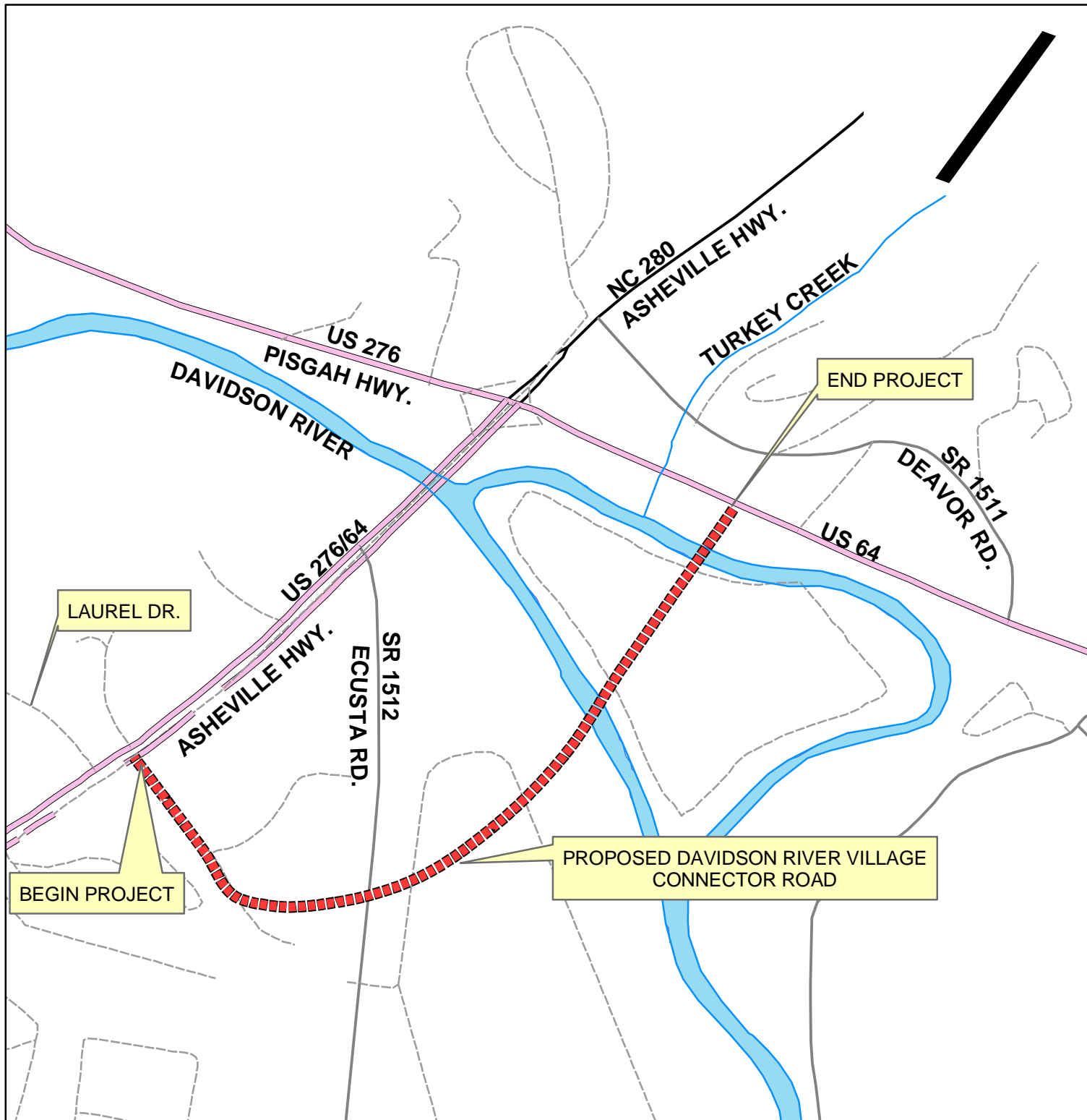
Common Mudpuppy and French Broad River Crayfish were identified as a potential endangered species within the project study area. The Davidson River was identified as a trout area.

VII. Recommendations

Alternatives 1 & 2: It was found that the two-lane curb and gutter section would not be able to accommodate the projected 2035 design year traffic volumes at an acceptable level of service.

Alternative 3: It was found that the four-lane divided curb and gutter section would be able to accommodate the projected 2035 design year traffic volumes at an acceptable level of service. A 23-foot raised grass median provides alternative access management strategies i.e. left-overs.

The total estimated cost for the preferred Alternative 3, a four-lane divided curb and gutter section, with 12-foot inside travel lanes, 14-foot outside travel lanes, a 23-foot raised grass median, 15-foot berms, and 5-foot sidewalks on 120 feet of right of way and the recommended intersection improvements is \$13,900,000.



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT BRANCH

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DAVIDSON RIVER VILLAGE CONNECTOR ROAD

FROM US 276/64 TO US 64

TRANSLYVANIA COUNTY

DIVISION 14

FIGURE 1